PRECOCIOUS PUBERTY

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FACTORS AFFECTING THE TIMING OF PUBERTY ONSET

- **Genetic** : familial delayed puberty
- **Health**: inflammatory disorders
- **Nutrition**: calorie malnutrition & anorexia nervosa
- **Psychosocial** : adoption
- **Environmental** : exposure to endocrinal disruptors or drugs

PRECOCIOUS PUBERTY

- Means the appearance of 2signs the of puberty before the age of
  - 9 ys in boys
  - 7or8ys in girls.
- Common in girls female:male (10:1)

THE SIGNS OF PRECOCIOUS PUBERTY IN BOYS,

- enlargement of the testicles or penis
- pubic, underarm, or facial hair development
- rapid height growth — a growth "spurt"
- voice deepening
- acne
- "mature" body odor

EARLY PUBERTY CAN HAVE ADVERSE EFFECTS ON SOCIAL AND PSYCHOLOGICAL DEVELOPMENT

- Early puberty puts **girls** at higher risk **of sexual abuse** & for **breast cancer** later ,in life.

- While **boys** face fewer problems eg **.increased aggressiveness** & more likely to be **sexually active** and participate in **risky behaviors**

Early puberty needs medical evaluation why?

- The majority have entered puberty early but are still medically normal
- **ONLY** few children have tumors &brain lesions .
- Induce early bone maturation and reduce eventual adult height.

PRECOCIOUS PUBERTY:

a.Hypergonadotrophic PP.(90%)

(central: gonadotrophin dependent)

(true precocious puberty most common)

-Idiopathic(familial)

-CNS DISORDERS

b.Hypogonadotrophic PP.(10%)

(peripheral: gonadotrophin independent

ie. dependt on adrenal or testicular androgen)

(pseudoprecocious puberty less common).

TRUE PRECOCIOUS PUBERTY:

HYPERGONADOTROPHIC PP

(CENTRAL: GONADOTROPHIN DEPENDENT)

-Due to an early but otherwise normal activation of the pubertal clock (from GnRH release to spermatogenesis)

-The same as in normal puberty but at an earlier age

-It is called (GDPP) 90% of PP

-TYPES:

1-IDIOPATHIC (familial)

2- CNS disorders

-Tumor (hamartoma) **-Hydrocephalus**

PSEUDOPRECOCIOUS PUBERTY(10%)

PERIPHERAL :GONADOTROPIN INDEPENDENT GIPP

- INCREASED ANDROGEN

  ENDOGENOUS:

  -- **ADRENAL** (CAH. Tumors.)

  -- **TESTICULAR (**Tumors)

  EXOGENOUS

  --Iatrogenic,

  -- Accidental exposure to hormones

  --Environmental factors with endocrine actions

- McCune Albright syndrome
- Premature Adrenarch Syndrome
- Testotoxicosis

Management of central precocious puberty (CPP)

- **No ttt for cases of with no underlying brain pathology .**
- **Treatment for PP typically to delay further development**
- **CPP can be treated by suppressing the pituitary hs.**
- **Growth h. given if the height prognosis is poor.**
- **Surgery:**

  tumours may require resection but resection rarely causes regression of the pubertal changes.

MEDICAL TREATMENTS INCLUDE:

- **(GnRH)** agonists are used in **CPP**,
  McCune-Albright syndrome (MAS) and testotoxicosis.
- **Glucocorticoids (CAH).**
- **Testolactone** is an aromatase inhibitor Anastrozole.
  (inhibits steroid biosynthesis). used for **MAS** & **testotoxicosi.**
- **Ketoconazole** in **testotoxicosis** to inhibit steroid biosynthesis.
- **Cyproterone acetate** for anti-androgen action.
- **Flutamide** to counter androgen excess.
- **Tamoxifen** may be used in **MAS**.
- **Medroxyprogesterone** (a progesterone analogue).

- **NB.**
- **GnRH agonists** (Histrelin acetate or Leuprolide,) any, may be used.
- Its Continuous usage cause a decreased of FSH and LH.
- BUT Non-continuous usage of GnRH agonists stimulates the pituitary gl. to release FSH and LH.
- Prolonged use has a risk of causing osteoporosis.
- After stopping GnRH agonists, pubertal changes resume within 3-12 months.

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